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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/481,988	01/11/2000	PAUL J. BRUINSMA	1941-70	6422

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EXAMINER

MARCANTONI, PAUL D

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 04/04/2002

22

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-22

# Office Action Summary

Application No.

09/481,988

Applicant(s)

Bruinsma et al.

Examiner

Paul Marcantoni

Group Art Unit

1755

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on 3/27/02 (RCE Filing)
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-27, 40, 41, 58-60, 69-71, 78-88, 90-95, 98, & 109-115 <sup>+116-121 + 122-128</sup> is/are pending in the application.
- ☐ Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☒ Claim(s) 1-27, 40, 41, 58-60, 69-71, 78-88, 90-95, 98, & 109-115 is/are allowed.
- ☒ Claim(s) 116-128 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
  - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other \_\_\_\_\_

Office Action Summary

Applicant's RCE continuation application filed 3/27/02 is acknowledged.

**New Matter Rejection:**

Claims 116-127 are rejected under the first paragraph of 35 USC 112 and 35 USC 132 as the specification as originally filed does not provide support for the invention as is now claimed.

Claim 116 contains new matter. The applicants omit the use of an acid (catalyst) in claim 116 which would appear to be required for their invention. It would appear that HCl is an acid catalyst and it is used in all examples so it would appear to be a critical component in their method. This omission of an acid catalyst in claim 116 would appear to be new matter absent a showing from the original disclosure that its usage is not mandatory.

Claim 117 also omits the use of an acid catalyst which would appear to be a critical component in their claimed method and thus its omission is new matter.

Claim 118 contains new matter. The term "surfactant" alone in claim 118 is also new matter since applicants have support for ammonium cationic surfactants or an *alkyl triethylammonium* chloride or bromide surfactants with different chain lengths.

Claim 118 also omits the use of an acid catalyst which would appear to be a critical component in their claimed method and thus its omission is new matter.

Claim 119 contains new matter. The term "a surfactant" is new matter. Applicants only have support in their original disclosure for ammonium cationic

Art Unit: 1755

surfactants or an *alkyl triethylammonium* chloride or bromide surfactants with different chain lengths.

Claim 119 also omits the use of an acid catalyst which would appear to be a critical component in their claimed method and thus its omission is new matter.

Claims 120 and 121 contain new matter because both claims would appear to omit the use of both a surfactant (specifically, ammonium cationic surfactants or an *alkyl triethylammonium* chloride or bromide surfactants with different chain lengths) and an acid catalyst which are both critical components of their inventive process. Omission of these components would appear to be new matter.

Claims 122-127 are new matter only so much as they refer to claims that have been determined to be new matter. However, the limitation of the aqueous solvent is supported by the original disclosure (see original patent Bruisma claim 1). The problem is that these claims depend upon claims that have new matter.

**Claim 128:**

*Claim 128 is* also rejected under the first paragraph of 35 USC 112 and 35 USC 132 as the specification as originally filed does not provide support for the invention as is now claimed. Also, the invention is rejected under the first paragraph of 35 USC 112 as the specification as originally filed is not commensurate in scope with their enabling disclosure because for the same reasons in the new matter rejection.

Applicants' process of claim 128 is not commensurate in scope with their enabling disclosure because the original disclosure requires the presence of a

Art Unit: 1755

templating step, an acid catalyst present, an ammonium surfactant or alkyl trimethylammonium chloride or bromide surfactants with different chain lengths, a silica precursor of tetraethoxysilane (TEOS), formation of a perform (of the silica precursor), having a superstoichiometric amount of aqueous solvent, providing acid catalyst in an amount to maintain a hydrolyzed precursor and avoid gelation or precipitation, and providing the surfactant and silica precursor in a mole ratio that is above a lower mole ratio that produces a non-porous silica phase and below an upper mole ratio that produces a lamellar phase.

It can also be argued that not only is it not commensurate in scope with the enabling disclosure but that the omission of these critical and specific limitations listed above would make their invention new matter not supported by the original disclosure. Applicants have a right to broaden their claims in a re-issue application within 2 years of the patent issue date but that does not mean they can broaden it so it can be new matter. Broadened claims still must be supported by the original disclosure and claim 128 is an example of one of the claims still rejected that is illustrative of this new matter.

It is noted that there is support for a calcined silica film on column 7, line 5 and column 9, line 11. However, claim 128 is new matter claim because the original disclosure requires the presence of an *acid catalyst* which is missing or omitted from claim 128. This must be in claim 128 because it is required by the original disclosure.

Also, claim 128 is new matter because it omits any solvent whatsoever not to mention it does not state an *aqueous solvent* which is required by the applicants' invention. The solvent can include dilution with an alcohol, particularly ethanol (see

Art Unit: 1755

Bruinsma patent original claims 6 and 7). Further, it would appear critical to actually dilute with an alcohol as is required by claim 25 of the original Bruinsma patent.

Claim 128 is further new matter because it does not support any surfactant known in the art. Applicants are limited to the teachings of their original disclosure which is a surfactant having an ammonium cation. More so, it also supports using alkyl trimethylammonium chloride or bromide surfactants with different chain lengths (see col.7, lines 40-50 of original Bruinsma patent).

Claim 128 is new matter because applicants do not have support for any precursor but are limited to a silica precursor of tetraethoxysilane (TEOS). TEOS is present in all working examples and would appear to be required in any claim for forming a film. No film is formed using any other precursor other than TEOS. (See also original claim 25).

Claim 128 is rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention.

While the term "calcined mesoporous silica film" in the preamble would appear supported from the original disclosure (col.7, line 5 and col.9, line 11), claim 128 is indefinite because there is no step of actually "calcining" the silica film. Applicants state that it is *heated* on the last step of their process yet this would appear vague. Applicants are referred to column 11, lines 25-26 of the Bruinsma patent wherein it states that the powder is *heated* at 105C for 2 hours followed by *calcination* at 600C for 30 minutes.

Art Unit: 1755

So, is this a heating step at a temperature lower than calcinations or do applicants only mean calcination? If it is not a calcination~~s~~ step, how can the applicants make a calcined silica film? Do applicants also need two steps of heating and calcining or do they only perform one heating which is assumed to be calcinations?


Claim 128 is also indefinite because it is unclear how a calcined silica film can be formed when there is no silica precursor starting material. Applicants should amend their claim to a silica precursor film of TEOS to overcome this rejection.

Claim 128 would appear indefinite because applicants do not provide a temperature one of ordinary skill in the art would understand to be calcinations or heating (105 C vs. 600C).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is (703)-308-1196. The examiner can normally be reached on 4-10 Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (703) 308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 or 9311. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

April 3, 2002

  
PAUL MARCANTONI  
PRIMARY EXAMINER  
GROUP 1700